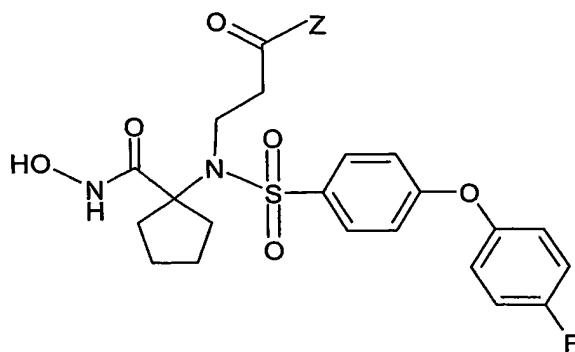


Figure 1.



Compound	Z
1.	-OH [prior art]
2.	-NH-[chelator 1]
3.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-[\text{chelator 1}]$
4.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}_2$
5.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{Cl}$
6.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{S}(\text{CH}_2)_3\text{F}$
7.	$-\text{NH}-\text{Lys}(\text{CO})\text{NH}-(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Lys}-[\epsilon\text{-chloroacetyl}]-\text{NH}_2$
8.	$-\text{NH}-\text{Glu}-\text{NH}_2$
9.	$-\text{NH}-\text{Lys}-\text{NH}_2$
10.	$-\text{NH}-\text{Leu}-\text{NH}_2$
11.	$-\text{NH}-\text{Lys}-\text{Glu}-\text{NH}_2$
12.	$-\text{NH}-\text{Glu}-\text{Glu}-\text{NH}_2$
13.	$-\text{NH}-\text{Leu}-\text{Glu}-\text{NH}_2$
14.	$-\text{NH}-\text{Lys}-\text{Lys}-\text{NH}_2$
15.	$-\text{NH}-\text{Gly}-\text{Lys}-\text{NH}_2$
16.	$-\text{NH}-\text{Glu}-\text{Lys}-\text{NH}_2$
17.	$-\text{NH}-\text{Leu}-\text{Lys}-\text{NH}_2$
18.	$-\text{NH}-\text{Gly}-\text{Glu}-\text{NH}_2$
19.	$-\text{NH}-(\text{Glu})_5-\text{Tyr}-\text{NH}_2$
20.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}(3\text{-iodo})-\text{NH}_2$
20A.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}(3\text{-}^{123}\text{I})-\text{NH}_2$
21.	$-\text{NH}-(\text{Glu})_5-\text{Tyr}(3\text{-iodo})-\text{NH}_2$

21A.	$-\text{NH}-(\text{Glu})_5-\text{Tyr}(3-^{123}\text{I})-\text{NH}_2$
22.	$-\text{O}-\text{C}_6\text{F}_5$
23.	$-\text{NH}(\text{CH}_2)_2-[\text{C}_6\text{H}_4-4-\text{OH}]$
24.	$-\text{NH}(\text{CH}_2)_2-[\text{C}_6\text{H}_3-3-\text{I}-4-\text{OH}]$
24A.	$-\text{NH}(\text{CH}_2)_2-[\text{C}_6\text{H}_3-3-^{123}\text{I}-4-\text{OH}]$
25.	$-\text{NH}-\text{C}_6\text{H}_4-4-\text{SnBu}_3$
26.	$-\text{NH}-\text{C}_6\text{H}_4-4-\text{I}$
30.	$-\text{Lys}-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}(3\text{-iodo})-\text{NH}_2$
30A.	$-\text{Lys}-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}(3-^{123}\text{I})-\text{NH}_2$
31.	$-\text{Lys}-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}-\text{NH}_2$
32.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2\text{CONH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH}-\text{Tyr}(3\text{-iodo})-\text{NH}_2$
32A.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2\text{CONH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH}-\text{Tyr}(3-^{123}\text{I})-\text{NH}_2$
33.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}-\text{NH}_2$
34.	$-\text{Glu}-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}-\text{NH}_2$
35.	$-\text{Glu}-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}(3\text{-iodo})-\text{NH}_2$
36.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2\text{CONH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH}-\text{Tyr}-\text{NH}_2$
37.	$-(\text{Glu})_5-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}-\text{NH}_2$
38.	$-(\text{Glu})_5-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}(3\text{-iodo})-\text{NH}_2$
39.	$-\text{NH}-\text{Tyr}-\text{NH}_2$
40.	$-\text{NH}-\text{Tyr}(3\text{-iodo})-\text{NH}_2$
41.	$-(\text{Lys})_5-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}-\text{NH}_2$
42.	$-(\text{Lys})_5-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_3(\text{CH}_2)_2\text{NH}(\text{CO})\text{CH}_2\text{OCH}_2\text{CO}-\text{NH}-\text{Tyr}(3\text{-iodo})-\text{NH}_2$

43.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH-Tyr-NH}_2$
44.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH-Tyr(3-iodo)-NH}_2$
45.	$-(\text{Lys-}\alpha\text{-NH}_2)\epsilon\text{-COCH}_2\text{O-NH}_2$
46.	$-(\text{Lys-}\alpha\text{-NH}_2)\epsilon\text{-COCH}_2\text{O-N=CH-(4-F-phenyl)}$
46B	$-(\text{Lys-}\alpha\text{-NH}_2)\epsilon\text{-COCH}_2\text{O-N=CH-(4-}^{18}\text{F-phenyl)}$
47.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2\text{CONH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH-Lys-}\alpha\text{-NH}_2\text{-}\epsilon\text{-COCH}_2\text{O-NH}_2$
48.	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2\text{CONH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH-Lys-}\alpha\text{-NH}_2\text{-}\epsilon\text{-COCH}_2\text{O-N=CH-(4-F-phenyl)}$
48B	$-\text{NH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2\text{CONH}(\text{CH}_2\text{CH}_2\text{O})_{11}\text{CH}_2\text{CH}_2-\text{CONH-Lys-}\alpha\text{-NH}_2\text{-}\epsilon\text{-COCH}_2\text{O-N=CH-(4-}^{18}\text{F-phenyl)}$

Note: the abbreviation [amino acid]-NH₂ indicates a terminal -CONH₂ amide group on the amino acid carboxy terminus.

Where Chelator 1 is:

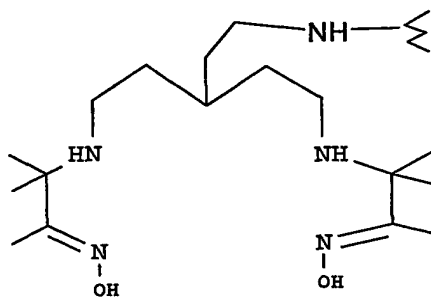


Figure 2.

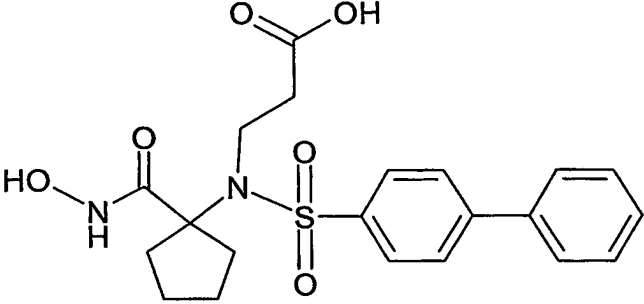
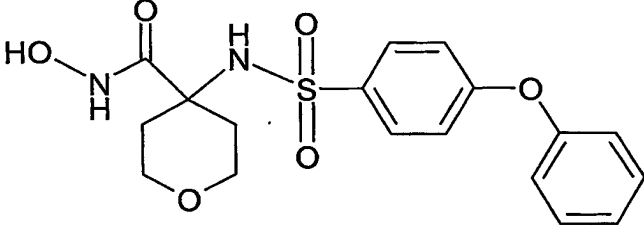
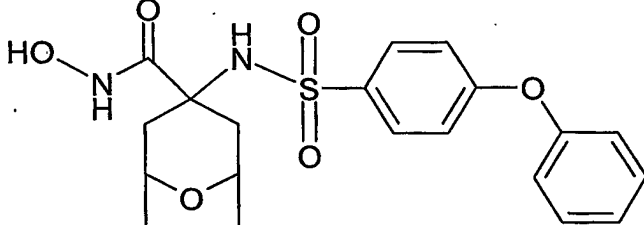
Compound	Structure
27.	 <p>[prior art]</p>
28.	 <p>[prior art]</p>
29.	 <p>[prior art]</p>

Figure 3: *In Vivo* Images